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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,277	06/23/2006	Kazunari Kobayashi	292950US0PCT	4084

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ALEXANDRIA, VA 22314

EXAMINER

MARKS, JACOB B

ART UNIT	PAPER NUMBER
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1795

NOTIFICATION DATE	DELIVERY MODE
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03/17/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/584,277	Applicant(s) KOBAYASHI ET AL.	
	Examiner JACOB MARKS	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 4-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01-25-2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendment dated 11-16-2009 was received. Claims 1 and 2 were amended. Claims 8-13 were added. Claims 1-13 are pending.
2. The text of those sections of Title 35, U.S. code not included in this action can be found in the previous Office Action issued 09-03-2009.

Election/Restrictions

3. Newly submitted claims 8-13 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:
4. This application contains claims directed to the following patentably distinct species.

Claims 1-3, drawn to a method of manufacturing a zinc anode can, classified in

Group I. Claims 1-3, drawn to a method of manufacturing a zinc anode can, classified in Class 429, subclass 164.

Group II. Claim 8-13, drawn to a method of manufacturing a zinc anode can, classified in Class 429, subclass 164.

The species are independent or distinct because claims to the different species recite the mutually exclusive characteristics of such species. In addition, these species are not obvious variants of each other based on the current record. Specifically group one is drawn to a zinc anode can wherein the anode comprises zinc and bismuth, whereas group II is drawn to a zinc anode can that consists essentially of zinc and

Art Unit: 1795

bismuth and optionally at least one of magnesium, zirconium, strontium, barium, or aluminum.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for

Art Unit: 1795

prosecution on the merits. Accordingly, claims 8-13 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, claim one as amended recites a battery "to which indium is not added." However, applicant discloses on page 5 of applicant's specification that indium may be added. Therefore the originally filed specification and claims do not provide support for a limitation that excludes the addition of indium to the zinc anode.

Claim Rejections - 35 USC § 103

7. The claim rejections under 35 U.S.C. 103(a) as being unpatentable over Batey (WO 00/77868), in view of Hikata et al. (JP 07-094193) and Kejha et al. (US Pat. Pub. 2004/0018425) on claims 1-3 are maintained.

Art Unit: 1795

Regarding claim 1, Batey et al. teach a method for producing a zinc foil for use as a battery anode comprising: (pg. 1 lines 4-25): forming the compact (plate) of a zinc alloy that contains bismuth wherein the average grain size of the zinc alloy is preferably 10 micrometers before mechanical working (pg. 1 lines 4-25, pg. 10 lines 1-7, pg. 11 lines 22-31). Batey et al. further disclose that the addition of indium is optional as it is one of several additives that may be included in the zinc (pg. 11 lines 20-31).

Batey et al. does not specifically teach that the mechanical working occurs at a temperature from 120 °C to 210 °C or that the negative electrode is formed into a zinc can container for the battery. However, Hikata et al. teach that forming the negative electrode into an electrode can that serves as a container is conventional for manganese dry cells (par. 2). Hikata et al. further disclose that mechanical working of a zinc alloy containing bismuth that acts as the negative electrode can is performed at a temperature between 180 °C and 220 °C and that this process decreases the chance of cracking or chipping (par. 6, 13, 14).

Batey et al. discloses that the foil is formed by rolling, but does not disclose that a battery can may be formed by extrusion, punching, and deep-drawing (page 1 lines 26-30). However, Kejha et al. disclose a method of forming a prismatic packaging structure (battery can) for an electrochemical cell wherein a tubing 2 is extruded then subsequently capped off by a deep drawn back plug 4 (par. 33, fig. 1-4). Deep drawing inherently contains the step of punching a shape through a drawn material. Kejha et al. further disclose that such a cell is less expensive than typical packaging enclosures for batteries (par. 32). Therefore, it would have been obvious to one having ordinary skill in

Art Unit: 1795

the art to form the battery of Batey out of the zinc alloy anode of Hikata et al. because such a configuration is conventional for manganese dry batteries. It would have been obvious to one of ordinary skill in the art to use the mechanical working temperature of 180 °C and 220 °C for the zinc alloy anode of Batey because such a mechanical working temperature can reduce cracking or chipping of the zinc. Furthermore, it would have been obvious to one of ordinary skill in the art to use mechanical working method of extrusion and deep drawing on the Batey/Hikata combination because such a process is less expensive than other conventional methods.

Regarding claim 2, Batey et al. disclose that the amount of bismuth present may be 500 ppm, which corresponds to a bismuth concentration of approximately 0.13% by weight (calculation assumes the balance is mostly zinc) (pg. 12 lines 15-20). Batey et al. discloses that zinc is the main component of the alloy and that lead is not an additive (pg. 12 lines 10-20).

Regarding claim 3, Batey et al. disclose that other additive metals such as magnesium may be added and that additive metals may have a concentration of up to 500 ppm, which corresponds to approximately 0.02% by weight magnesium (pg. 11 lines 21-31).

Response to Arguments

8. Applicant's arguments with respect to newly added subject matter of claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACOB MARKS whose telephone number is (571)270-7873. The examiner can normally be reached on Monday through Friday 7:30-5:00 alt Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jacob Marks/

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795